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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,536	08/29/2001	Hitoshi Kuno	4041J-000406	7049

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EXAMINER

WALBERG, TERESA J

ART UNIT

PAPER NUMBER

3742

DATE MAILED: 08/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/941,536

Applicant(s)

KUNO ET AL.

Examiner

Teresa J. Walberg

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/29/01, 3/21/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. Claim 2 objected to because of the following informalities: Claim 2 appears to have incorrect dependency. For purposes of examination it has been assumed that claim 2 was intended to depend from claim 1, rather than claim 11. Clarification as to the correct dependency of claim 2 is requested.. Appropriate correction is required.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 9-13, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno (5,070,938) in view of Stenger-Smith et al (5,904,990).

Mizuno discloses the use of an aluminum heat exchanger (col. 1, lines 7-10) and teaches that it is known in the art to provide such a heat exchanger with a polymer coating to prevent corrosion and for anti-microbial purposes. See columns 1 and 2. Mizuno also teaches at col. 1, lines 14-15, that such an air conditioner can be used as an evaporator for an air conditioner of an automobile.

Mizuno does not teach the use of polyaniline as the polymer coating and does not teach the use of active oxygen.

Stenger-Smith et al teach (see columns 1 and 2) that it is known in the art to form corrosion preventive coatings for metal surfaces such as aluminum (see col. 1, line 24) of a conductive polymer such as polyaniline (see col. 2, line 61).

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It would have been obvious in view of Stenger-Smith et al to use a polyaniline coating as an anti-corrosion coating for an aluminum heat exchanger as taught by Mizuno, in order to obtain the improved corrosion preventive properties taught by Stenger-Smith et al.

An aluminum heat exchanger with a polyaniline anti-corrosion coating, as is rendered obvious by the teachings of Mizuno and Stenger-Smith et al, would necessarily and inherently perform the claimed method steps of generating active oxygen and reducing the amount of organic substances, since production of active oxygen is an inherent property of polyaniline when exposed to water.

4. Claims 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuno in view of Stenger-Smith et al as applied to claims 1-7, 9-13, 15 and 16 above and further in view of Morita et al (EP 0 782 970).

Mizuno in view of Stenger-Smith et al disclose the claimed subject matter with the exception of the exact composition of polyaniline used.

Morita et al disclose that the claimed compositions of polyaniline are known in the art. See the abstract.

It would have been obvious in view of Morita et al to use the claimed compositions of polyaniline as the heat exchanger coating of Mizuno in view of Stenger-Smith et al for improved cleaning of the water around the heat exchanger.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Czulak et al, Morita et al (JP 9-175801), and JP 10-316403 (no name listed) are cited as showing active oxygen.

Angelopoulos et al and Hawkins et al are cited to show corrosion preventing coatings.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 703-308-1327. The examiner can normally be reached on M-F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 703-305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Teresa J. Walberg
Teresa J. Walberg
Primary Examiner
Art Unit 3742